

REMARKS

The foregoing amendments and these remarks are in response to the Office Action, dated March 25, 2005. At the time of the Office Action, claims 1-14 were pending in the present application. Claims 1-14 were rejected under 35 U.S.C. §§ 102(b) or 103(a). Claims 1, 5, 8, 10 and 12 are currently amended; claim 11 has been canceled; claims 15-18 are new; and claims 2-4, 6-7, 9 and 13-14 are original claims. The Examiner's rejections will be addressed in turn below.

Information Disclosure Statement

Before addressing the Examiner's art-based rejections, Applicant will first address the Examiner's comments regarding the information disclosure statement ("IDS") submitted with the present application. Specifically, the Examiner noted that the IDS failed to comply with 37 C.F.R. 1.98(a)(3) because it does not include a concise explanation of the relevance of each patent listed that is not in the English language. The Examiner noted that the references were placed in the application file, but they have not been considered.

Of the foreign references cited in the IDS, the following references were submitted to the USPTO in a foreign language in their entirety: JP 2001248406; JP2000220407; JP 8193503; JP 315605; JP 62225703; and EP 0806548 A1. These references were provided to the Applicant during a prior art search. At the time of filing, Applicant was not sure whether these references were relevant to the subject matter of the present invention. However, in the interest of full disclosure, Applicant brought these references to the attention of the USPTO.

Subsequent to learning of the office action issued on March 25, 2005, English language versions of these foreign references were obtained. Copies of these English version references as

well as a supplemental IDS re-listing these references is submitted herewith for independent consideration by the Examiner. In the process of obtaining the English version references, it was discovered that EP 0806548 A1 has a related U.S. counterpart – U.S. Patent No. 5,868,553 – which is also listed on the supplemental IDS. Applicant believes the present invention to be patentable over these references.

The other foreign references on the original IDS – EP 1132577 A2; WO 01/57420 A1; and CA 2232781 – were already in English. Applicant believes these references to be sufficient and to have been considered by the Examiner.

Art-Based Rejections

Each of the Examiner's art-based rejections will be addressed in turn below. As noted above, the Examiner rejected claims 1-14 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,975,901 ("Hallinger") or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hallinger.

At the outset, it is noted that Hallinger is directed to a tip clearance control system. The Examiner points to the obturator in Hallinger as being a valve. If it even can be considered a valve, the obturator is at most a "reactive" valve. That is, the delivery of fluids to the turbine casing is merely in response to the thermal expansion and contraction of the obturator itself. Thus, control of the blade tip clearances is totally at the mercy of the thermal reaction of the obturator. In operation, there is no ability for engine operators to control the blade tip clearances beyond the thermal response of the obturator.

In contrast, the system and method according to aspects of the present invention are directed to an active control system. A mixture is selectively supplied to the turbine stationary

blade ring. Such selective delivery can be effected by a valve. However, unlike Hallinger, the valve does not open and close by itself. Rather, the valve is operated by an input external to the valve itself. The specification discloses manual manipulation and an engine controller as examples of an external input. Because the valve is controlled by an external input, the delivery of fluids to the turbine blade ring can be done at any point during the operation of the engine. Thus, it will be appreciated that the system according to aspects of the invention permits active control of the blade tip clearances based on any of a number of operational parameters, such as load or actual tip clearance.

Claim 1 has been amended to recite that the step of supplying is performed selectively based on one or more operational parameters, which are monitored during engine operation. Such steps are not taught or suggested by Hallinger. Indeed, there is nothing "selective" about the supply of a mixture to the turbine casing in Hallinger.

Because claim 1 is distinguishable over Hallinger, the claims depending therefrom are necessarily distinguishable as well. However, Applicant would like to note a few of these claims. For example, claims 6-9 recite various operational parameters at which the mixture can be supplied to the stationary blade ring. These are not obvious design choices, and it cannot be said that Hallinger teaches such parameters. Again, the only parameter accounted for in the Hallinger system is thermal expansion or contraction of the obturator. Further, new claims 17 and 18 recite that the selective supplying step is performed manually or automatically by an engine controller. Such manners of controlling the supply of the mixture to the blade ring is not taught or suggested by Hallinger. These methods allow for a greater level of control of the blade tip clearances over a variety of operational conditions.

Independent claim 10 has been amended to recite a valve and a controller operatively connected to the valve. New independent claim 15 recites that the valve is manually controlled. For all the reasons set forth above, Hallinger does not disclose such a valve.

CONCLUSION

In light of the foregoing, Applicant respectfully submits that the Examiner's rejections have been traversed. Applicant further respectfully requests the Examiner to reconsider and withdraw the rejections of claims 1-10 and 12-14 and allow new claims 15-18. A notice to that effect is respectfully requested.

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Respectfully submitted,



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